Remarks:

Reconsideration of the application, as amended herein, is respectfully requested.

Claims 1 - 18 are presently pending in the application. Claims 1, 3, 4, 7, 8, 10 and 12 - 15 have been amended. Claims 19 and 20 have been canceled.

In item 2 of the Office Action, the Examiner requested a clean listing of the claims including larger and clearer renditions of the equations. Such a clean listing is included herewith on pages 13 - 23 of the instant response.

In item 3 of the Office Action, claim 1 was objected to on the basis of an informality. More particularly claim 1 was objected to because of the use of "and/or" in line 3. Applicant has amended line 3 of claim 1 to remove the reference to "and/or".

Additionally, in item 4 of the Office Action, claims 19 - 20 were objected to as allegedly being of improper dependent form. Applicant has cancelled claims 19 - 20 from the instant application, thus mooting the present rejection.

In item 5 of the Office Action, claims 1 - 20 were rejected under 35 U.S.C. § 101 as allegedly being directed to non-

statutory subject matter. More particularly, in item 6 of the Office Action, claims 1 - 10 were alleged to be directed towards an abstract idea or mathematical algorithm, and, allegedly, failing to produce a concrete, useful or tangible result. Applicant respectfully disagrees.

More particularly, Applicant's claim 1 has been amended to recite, among other limitations:

> **A method for simulating an electrical network,** whereby the inconsistencies in the system of differential equations of the electrical network are detected by the following steps: [emphasis added]

Similarly, Applicant's claim 10 has been amended to recite, among other limitations:

> **A computer program product or computer program for simulating an electrical network,** whereby the inconsistencies in a system of differential equations of the electrical network are detected with the aid of a computer or with the aid of an analog computer and the system of equations is of the form $\underline{f}\left(t,\underline{x}(t),\dot{\underline{x}}(t),....,\underline{x}^{(k)}(t),\underline{p}\right)=\underline{0}$, including: [emphasis added by Applicant]

The amendments to claims 1 and 10 are supported by the specification of the instant application, for example on page 5 of the instant application, lines 2 - 6, which state:

> It is accordingly an object of the invention to provide a method **for providing error information relating to inconsistencies in a system of differential equations** which overcomes the above-mentioned disadvantages of the heretofore-known

> devices and methods of this general type. [emphasis added by Applicant]

See also, for example, page 8 of the instant application, lines 16 - 24, which state:

> Moreover, another system of differential equations that describes the same technical system or the same technical process can be examined for inconsistencies. This can be advantageous when the last-named system of differential equations has a simpler structure than that to be simulated later. **For example, in the simulation of electric networks** the equations of modified node voltage analysis are usually the basis of the numerical simulation, although the so-called branch voltage-branch current equations have a substantially simpler structure. [emphasis added by Applicant]

See also, for example, page 2 of the instant application, lines 14 - 21; page 7 of the instant application, lines 18 - 21; and page 28 of the instant application, lines 1 - 10.

As such, Applicant's independent claims 1 and 10 make clear that the method is used **in a simulation environment** (i.e., simulation of an electrical network), **which provides a concrete useful and tangible result**. The inventive method permits the identification of the error locations and, accordingly, provides a faster calculation in comparison to prior art methods performed by computer. The specification of the instant application describes one particular object of the invention as improving the simulation of technical systems (see, for example, page 8 of the instant application, line 23

- page 9, line 2). This problem results from the prior arts insufficient simulation techniques for technical systems, as known simulation techniques for numerically solving systems of differential equation systems terminate if the fundamental system of differential equation is singular. The method of the instant application makes it possible to foresee such simulation problems and eases the design and the production process of the electrical network. By the improved method for the detection of inconsistencies of the instant application, the simulation of the electrical network and, accordingly, the electrical network itself is improved.

As such, Applicant's claimed invention is believed to be statutory subject matter under 35 U.S.C. § 101. More particularly, Applicant's claimed invention simulates an electrical network and provides, **as an output**, the inconsistencies of the electrical network found during the simulation. As such, Applicant respectfully requests that the rejection of claims 1 and 10 under 35 U.S.C. § 101 be withdrawn.

Further, in item 7 of the Office Action, claims 3, 4 and 8 were alleged to recite a "computer program with computer-executable instructions for executing a method for numerical simulation" and claims 10 - 11 were alleged to recite "a

computer program product and computer program . . .". As such, it was alleged that Applicant's claims 3, 4, 8, 10 and 11 were directed to a computer program that lists expressions of the program, but does not define any structural or functional interrelationship betweent he computer program and the elements of the computer. Applicant respectfully disagrees.

More particularly, Applicant has amended claims 3 and 4 to recite, among other limitations, **a computer** running the computer program with computer -executable instructions". Similarly, Applicant's claim 8 has been amended to recite the method of claim 1, further including, among other things, downloading of the computer program **to a computer**. As such, Applicant's claims 3, 4 and 8 are directed to the **computer** to which the computer program is downloaded or the upon which the computer program is run. Applicant's claim 10, from which claim 11 depends, recites a computer program product or computer program, whereby the inconsistencies in a system of differential equations of the electrical network are detected with the aid of a computer or with the aid of an analog computer, among other limitations. As such, Applicant's claim 10 clearly discloses the interrelationship and interaction between the computer (analog or otherwise) and the computer

program. Thus, Applicant's claims 3, 4, 8, 10 and 11 are also believed to be statutory subject matter under 35 U.S.C. § 101.

Further, item 7 of the Office Action rejected claims 7 and 12 - 15 as allegedly reciting a "computer-readable medium" and a "data carrier". Applicant has amended claims 7 and 12 - 15, herein, to make it clear that the claims relate to a **computer** running a computer program or interpreting a data carrier, as applicable. Thus Applicant's claims 7 and 12 - 15, directed to a computer programmed in a particular way to provide a useful, tangible and concrete result (i.e., the results of the simulation of the electrical network), are believed to be statutory subject matter under 35 U.S.C. § 101.

In item 9 of the Office Action, claims 8, 9, 19 and 20 were rejected under 35 U.S.C. § 103(a) as allegedly being obvious over Unger et al., "Structural Analysis of Differential-Algebraic Equation Systems-Theory and Applications", Computers Chem. Engng., Vol. 19, No. 8, pp. 867 - 882, 1995 ("**UNGER**") in view of U. S. Patent No. 6,266,630 to Garcia-Sabiro et al ("**GARCIA**").

Applicant respectfully traverses the above rejections, as applied to the amended claims. More particularly, claims 19 - 20 have been canceled from the instant application, thus

mooting the rejection of those claims. Further, Applicant's claim 8, from which claim 9 depends, has been amended to recite, among other limitations:

> **The method of claim 1, further comprising the step of downloading a computer program product or a computer program** with computer-executable instructions for executing a method for numerical simulation of a technical system according to claim 1 from an electronic data network onto a computer connected to the data network

As such, claim 8 depends directly from claim 1, and recites the method of claim 1, further including, among other limitations, downloading a computer program product or computer program. Per item 17 of the instant Office Action, Applicant's independent claim 1, from which claim 8 depends, is believed to be patentable over the **UNGER** and **GARCIA** references. As such, Applicant's claim 8, depending from claim 1, and Applicant's claim 9, depending from the amended claim 8, are believed to additionally be patentable over the **UNGER** and **GARCIA** references.

For the foregoing reasons, among others, and in view of response to arguments in items 17 - 19 of the Office Action, it is believed that Applicant's claims are patentable over the prior art of record.

Item 19 of the Office Action states that the indication of allowable subject matter is being withheld pending the response to the rejections of claims 1 - 20, presumably, under 35 U.S.C. § 101. Because Applicant's claims 1 - 18 are believed to be statutory subject matter, as discussed above, and because the amended claim 8 depends directly from a claim that is indicated in item 17 as being patentable over the combination of the **UNGER** and **GARCIA** references, Applicant is respectfully requesting an indication of the allowability of claims 1 - 18.

It is accordingly believed that none of the references, whether taken alone or in any combination, teach or suggest the features of claims 1 and 10. Claims 1 and 10 are, therefore, believed to be patentable over the art. The dependent claims are believed to be patentable as well because they all are ultimately dependent on claims 1 or 10.

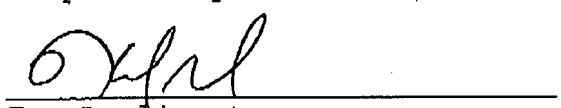
In view of the foregoing, reconsideration and allowance of claims 1 - 18 are solicited.

In the event the Examiner should still find any of the claims to be unpatentable, counsel would appreciate receiving a telephone call so that, if possible, patentable language can be worked out.

The instant application is being filed simultaneously with a Request for Continued Examination and its associated fee. If an extension of time for this paper is required, petition for extension is herewith made.

Please charge any fees that might be due with respect to Sections 1.16 and 1.17 to the Deposit Account of Lerner Greenberg Stemer LLP, No. 12-1099.

Respectfully submitted,



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October 29, 2007

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